



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,769	03/31/2004	Zhiwei Dong	SIL.0002US (P-04-100-1005)	8864
21906 7590 10/05/2009 TROP, PRUNER & HU, P.C. 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631			EXAMINER CHAN, RICHARD	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 10/05/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/814,769	Applicant(s) DONG ET AL.	
	Examiner RICHARD CHAN	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/3.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 26-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-13, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Rodeffer (US 5,507,025).

Regarding claim 1 and 26, Rodeffer, specifically Fig.15 discloses the apparatus and method comprising:

receiving a satellite signal spectrum in a receiver; (dish 101)

and determining a local oscillator (LO) frequency for a signal channel within the satellite signal spectrum, (Col.11 line 48-55) the LO frequency being away from a center of a widest signal channel by greater than half of a signal band of the widest signal channel and less than half of a passband width of a baseband filter of the receiver. (Control Circuit 412 controlling the LO frequency based on reference frequency of pervious stage LO)

Regarding claim 2, Rodeffer discloses the method of claim 1, further comprising selecting the LO frequency from a first LO selection region and a second LO selection region, each of which are adjacent to a signal channel. (Col.1 line 36-44, specifically

Art Unit: 2618

wherein each of the satellite channels are spaced 40 Mhz, which is considered adjacent channels)

Regarding claim 3, Rodeffer discloses the method of claim 2, further comprising selecting the LO frequency to be outside of the signal band of the signal channel by at least a first amount to avoid 1/f noise and a DC offset effect. (Col.1 line 58-63)

Regarding claim 4, Rodeffer discloses the method of claim 1, further comprising determining an error value corresponding to a frequency error of a LO generating the LO frequency. (error being offset with respect to pass band 502, Col.8 line 45-48)

Regarding claim 5, Rodeffer discloses the method of claim 4, further comprising storing the error value in a storage medium. (Col.12 line 40-49)

Regarding claim 6, Rodeffer discloses the method of claim 1, wherein the baseband filter has a smallest passband width that is wider than a width of the widest signal channel and half of a LO-step frequency, wherein the receiver comprises one tuner. (Control Circuit 412 controlling the LO frequency based on reference frequency of pervious stage LO)

Regarding claim 7, Rodeffer discloses the method of claim 1, further comprising: mixing the satellite signal spectrum (mixer 403) with the LO frequency (from 1st LO 404)

Art Unit: 2618

to obtain a downmixed signal 415; and filtering the downmixed signal using the baseband filter. (Bandpass filter 406)

Regarding claim 8, Rodeffer discloses the method of claim 7, further comprising selecting the LO frequency to cause a center frequency of the downmixed signal to be at a center of a passband of the baseband filter. (Col.5 line 27-38)

Regarding claim 9, Rodeffer discloses the method of claim 1, further comprising determining a new LO frequency for a new signal channel within the satellite signal spectrum, the new LO frequency being outside of a signal band of the new signal channel and an offset region surrounding the new signal channel. (Col.5 line 38-44)

Regarding claim 10, Rodeffer discloses the method of claim 9, further comprising selecting the new LO frequency so that it does not interfere with one or more existing LO frequencies. (Col.7 line 51-62)

Regarding claim 11, Rodeffer discloses the method of claim 10, further comprising selecting the new LO frequency from a LO candidate selection region that is outside a crosstalk region surrounding the one or more existing LO frequencies. (Col.7 line 51-62)

Art Unit: 2618

Regarding claim 12, Rodeffer discloses the method of claim 11, wherein the LO candidate selection region is outside a crosstalk region surrounding harmonics of the one or more existing LO frequencies. Col.7 line 51-62)

Regarding claim 13, Rodeffer discloses the of claim 11, further comprising maintaining parameters of existing signal channels when tuning the new signal channel. (Col.8 line 19-28)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodeffer (US 5,507,025) In view of deSantis (US 4,858,225).

Regarding claims 27, 30, and 33 Rodeffer discloses the apparatus of claim 26, however does not specifically further disclose a second tuner to receive the satellite signal spectrum; and a second oscillator to generate a second LO frequency to be mixed with the satellite signal spectrum to obtain a second signal channel.

The deSantis reference, specifically Fig.6 discloses a multiple tuner (number Nx amount of tuners) for a satellite router wherein multiple input signals are input into a parallel circuit 112 via transmission line 118. Traffic is split into many parallel channels through bandpass filter 113 becoming different channels, these signals outputted by the multiple tuner are then inputted into multiplexer 130.

It would have been obvious at the time of the invention to implement the multi-tuner satellite and multiplexer of deSantis to the satellite receiver of Rodeffer in order for the satellite receiver to be able to handle multiple channels at the same time and choose the channel of preference multiplexer selection.

Regarding claims 28, 31, and 34 Rodeffer and deSantis combined disclose the apparatus of claim 27, 30, and 33, Rodeffer continues to disclose wherein the selection circuit is adapted to determine a new LO frequency, wherein the new LO frequency does not interfere with an existing LO frequency. (Col.7 line 51-62)

Regarding claim 29, Rodeffer and deSantis combined discloses the apparatus of claim 28, Rodeffer continues to disclose wherein the selection circuit determines the new LO frequency based on a crosstalk region of the existing LO frequency and a frequency location of an existing signal channel and a new signal channel. (Col.7 line 51-62)

Regarding claim 32, Rodeffer and deSantis combined disclose the apparatus of claim 30, Rodeffer continues to disclose wherein the selection circuit is adapted to select one of the first LO frequency or the second LO frequency for use in obtaining the third signal channel from the satellite signal spectrum, (Col.5 line 38-44) and deSantis discloses wherein the apparatus further comprises a multiplexer. (multiplexer 130)

Regarding claim 35, Rodeffer and deSantis combined disclose the apparatus of claim 33, wherein the selection circuit is adapted to select one of the first LO frequency, the second LO frequency, or the third LO frequency for use in obtaining the fourth signal channel from the satellite signal spectrum, wherein the apparatus further comprises a multiplexer.(Col.14 line 62- Col.15 line 35)

Regarding claim 36, Rodeffer and deSantis combined disclose the apparatus of claim 33, wherein the first tuner, the second tuner, the third tuner, and the fourth tuner are adapted on a single integrated circuit. (Fig.6 deSantis)

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD CHAN whose telephone number is (571)272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nay A. Maung/
Supervisory Patent Examiner, Art Unit 2618

/Richard Chan/
Examiner, Art Unit 2618